

tungsten individually. Copper was etched by nitric acid roughly in proportion to the nitric acid concentration, while neither tungsten nor polyimide substantially dissolved in nitric acid. When nitric acid was added to the originally alkaline silica slurry, undesirable dishing in copper was observed as a result of fast chemical etch of copper during polishing. Since acidic slurries are desirable for achieving a slow removal of tungsten, an acid to which copper is inert is preferably added to the slurry. The inventors have discovered that phosphoric acid (H_3PO_4) has no significant erosion to copper (Cu), tungsten (W) or polyimide (PI) at room temperature. The removal rates using silica slurry blended with nitric acid and phosphoric acid, respectively, are presented below in TABLE II in the units of Angstroms per minute ($\text{\AA}/\text{min}$):

In the Claims:

Please amend claims 22, 29, 36, 39, 45, 46, and 53 as follows (please substitute the following amended claim for the pending claims with the same numbers):

22. (Twice Amended) A chemical mechanical polishing method of planarizing a protruding structure comprising a material layer and copper (Cu), said protruding structure being formed on a surface of a substrate, said method comprising the steps of:

- B2
- (a) forming a polish-stop layer comprising tungsten (W) which is positioned along at least one side of said protruding structure;
 - (b) polishing initially the material layer of said protruding structure in a slurry comprising an abrasive and phosphoric acid (H_3PO_4); and thereafter
 - (c) polishing the material layer and the copper in the slurry of said protruding structure until contacting the polish-stop layer.

29. (Amended) A method of polishing a protruding structure comprising a material layer and copper (Cu), said structure being formed on a surface of a substrate, said method comprising:

- B3
- (a) forming a polish-stop layer comprising tungsten (W) which is positioned along at least one side of said protruding structure; and
 - (b) polishing simultaneously the material layer and the copper of said protruding structure.
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B4

36. (Amended) A method of decreasing the rate at which tungsten material is removed by a polishing slurry in a polishing process while not decreasing the rate at which copper material is removed, said method comprising adding phosphoric acid to the polishing slurry.

B5

39. (Amended) A chemical mechanical polishing method of planarizing a structure comprising:

- providing a substrate supporting a material layer including protrusions comprising at least partially embedded copper (Cu);
- forming at least one polish-stop layer on the material layer; and
- polishing the material layer and the copper before contacting the polish-stop layer.

B6

45. (Amended) A chemical mechanical polishing method of planarizing a structure comprising:

- providing a substrate supporting a material layer including protrusions comprising at least partially embedded copper (Cu);
- forming at least one polish-stop layer on the material layer; and
- polishing the material layer and the copper before contracting the polish-stop layer,

wherein said forming of at least one polish-stop layer comprises forming said at least one polish-stop layer on an upper surface of said material layer such that a portion of the material layer and the copper extends above the polish stop layer.

46. (Amended) A chemical mechanical polishing method of planarizing a structure comprising:

- providing a substrate supporting a material layer including protrusions comprising at least partially embedded copper (Cu);
- forming at least one polish-stop layer on the material layer; and
- polishing the material layer and the copper before contracting the polish-stop layer,